

UNITED STATES PATENT AND TRADEMARK OFFICE  
**CERTIFICATE OF CORRECTION**

PATENT NO. : 7,133,768 B2  
APPLICATION NO. : 10/770419  
DATED : November 7, 2006  
INVENTOR(S) : Yoshio Mukaiyama

Page 1 of 4

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Title page should be deleted and substitute therefor the attached title page

Delete the Drawing Sheet 4 of 8 and substitute therefor the attached Drawing Sheet 4 of 8.

Column 5, Line 39, change "exist" to --existing--;

Column 7, Line 27, delete the word "which";

Column 8, Line 56, delete the word "that";

Column 9, Line 3, delete the word "that";

Column 10, Line 52, after "control" change "systems" to --system--;

Column 17, Line 65, after "presence" add --of--;

Column 19, Line 44, change "vehicle B1 to B3" to --vehicles B1 to B3--;

Column 19, Line 53, after "side" add --of--;

Column 19, Line 64, after "side" add --of--;

Column 20, Line 49, change "determined" to --determine--;

Column 21, Line 40, change "orself-obtained" to --or self obtained--;

Column 22, Line 25, change "approaching vehicle" to --"approaching vehicle")--;

Column 24, Line 37, after "time" change "ti" to --t1--;

Column 28, Line 27, after "then" change "ends" to --ended--;

UNITED STATES PATENT AND TRADEMARK OFFICE  
**CERTIFICATE OF CORRECTION**

PATENT NO. : 7,133,768 B2  
APPLICATION NO. : 10/770419  
DATED : November 7, 2006  
INVENTOR(S) : Yoshio Mukaiyama

Page 2 of 4

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 33, Line 2, change "the Wet vehicle and the moving" to --the vehicle and the first moving--;

This certificate supersedes the Certificate of Correction issued January 8, 2008.

Signed and Sealed this

Twenty-ninth Day of January, 2008

A handwritten signature in black ink, appearing to read "Jon W. Dudas". The signature is stylized with a large, looped initial "J" and a distinct "D" at the end.

JON W. DUDAS  
*Director of the United States Patent and Trademark Office*

(12) **United States Patent**  
Mukaiyama

(10) Patent No.: **US 7,133,768 B2**  
(45) Date of Patent: **Nov. 7, 2006**

(34) **VEHICULAR DRIVING SUPPORT SYSTEM  
AND VEHICULAR CONTROL SYSTEM**

(75) Inventor: Yashio Mukaiyama, Mishima (JP)

(73) Assignee: Toyota Jidosha Kabushiki Kaisha,  
Toyota (JP)

(\*) Notice: Subject to any disclaimer, the term of this  
patent is extended or adjusted under 35  
U.S.C. 154(b) by 330 days.

(21) Appl. No.: 10/770,419

(22) Filed: Feb. 4, 2004

(65) Prior Publication Data  
US 2004/0158390 A1 Aug. 12, 2004

(30) Foreign Application Priority Data  
Feb. 12, 2003 (JP) ..... 2003-033495

(51) Int. Cl.  
G01C 21/26 (2006.01)  
G01C 21/28 (2006.01)

(52) U.S. Cl. .... 701/200; 701/301; 701/114;  
340/901; 340/902; 340/903; 340/435

(58) Field of Classification Search ..... 701/200,  
701/300, 301, 117, 33; 340/901, 902, 903,  
340/905, 435, 436  
See application file for complete search history.

(56) References Cited

**U.S. PATENT DOCUMENTS**

6,292,109 B1 \* 9/2001 Murano et al. .... 340/903  
6,619,137 B1 \* 9/2003 Lester et al. .... 701/301

6,625,340 B1 \* 9/2003 Kageyama ..... 701/301  
6,662,108 B1 \* 12/2003 Miller et al. .... 701/301  
6,768,944 B1 \* 7/2004 Breed et al. .... 701/301  
6,856,896 B1 \* 2/2005 Kashiida et al. .... 701/207  
2004/0128052 A1 \* 7/2004 Ogino et al. .... 701/200

**FOREIGN PATENT DOCUMENTS**

JP A 4-290206 10/1992  
JP A 11-352241 12/1999  
JP A 2000-348299 12/2000  
JP A 2000-357293 12/2000

\* cited by examiner

Primary Examiner—Thomas Black

Assistant Examiner—Brian J. Broadhead

(74) Attorney, Agent, or Firm—Kenyon & Kenyon LLP

(57) **ABSTRACT**

A driving support system for a vehicle, which is provided with a communication apparatus capable of bi-directional communication between the vehicle and an unspecified number of moving objects, detects the presence of a communication impeding intersection at which there is a radio-wave blocking object using information obtained by communication with at least one of the moving objects that is traveling on an intersecting road which intersects the road on which the vehicle is traveling. The driving support system then transmits to at least one of the moving objects on the road on which the vehicle is traveling at least one of communication impeding intersection information relating to the communication impeding intersection and moving object information relating to at least one of the moving objects that is on the intersecting road only when the presence of the communication impeding intersection has been detected.

21 Claims, 8 Drawing Sheets

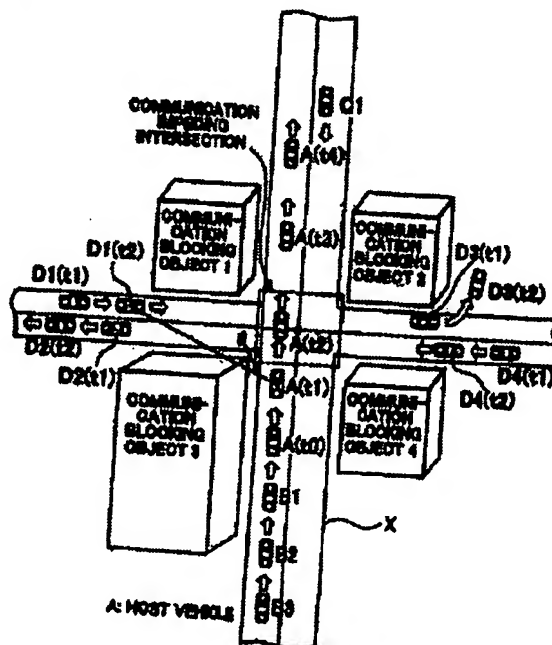


FIG. 4

